



Launch Mission Execution Forecast

Mission: Falcon 9 Transporter-4

Issued: 30 Mar 2022 / 0845L (1245Z)

Valid: 01 Apr 2022 / 1214 – 1234L (1614 – 1634Z)



Forecast Discussion: After a stretch of beautiful weather in East Central Florida, conditions will deteriorate by the end of the week as a strong area of high pressure slides off the Atlantic coast today. This, coupled with a strong low developing over the Midwest, will cause winds to increase and shift to the southeast this afternoon. The low will track to the east tomorrow, dragging a cold front across the Southeastern US. The front will bring generally unsettled weather by Friday, increasing cloud coverage along with shower and lightning chances. Thus, the primary concerns are the Cumulus Cloud Rule, Surface Electric Fields Rule, and the Thick Cloud Layers Rule.

For the backup day on Saturday, unsettled weather will remain in place as the front stalls out over Central Florida. Because of this, the POV and primary concerns are the same as on Friday's attempt.

There is still uncertainty regarding the location of the front on Monday. Most of the models do push it farther south, allowing for drier air to move in and favorable launch conditions. However, if it does linger in the area, this would keep the cloud cover and shower/lightning chances. The primary concern is the Cumulus Cloud Rule.

Launch Day	Probability of Violating Weather Constraints							
	60%	Primary Concerns: Cumulus Cloud Rule, Surface Electric Fields Rule, Thick Cloud Layers Rule						
	Weather Conditions					Additional Risk Criteria		
	Weather/Visibility:	Sct Showers / 7 mi.	Type	Coverage	Base (ft)	Tops (ft)	Upper-Level Wind Shear:	Low
	Temp/Humidity:	76°F / 80%	Cumulus	Scattered	2,500	15,000	Booster Recovery Weather:	Low
	Liftoff Winds (200’):	240° 15 - 20 mph	Altostratus	Broken	14,000	18,000	Solar Activity:	Low
24-Hour Delay	Probability of Violating Weather Constraints							
	60%	Primary Concerns: Cumulus Cloud Rule, Surface Electric Fields Rule, Thick Cloud Layers Rule						
	Weather Conditions						Additional Risk Criteria	
	Weather/Visibility:	Sct Showers / 7 mi.	Type	Coverage	Base (ft)	Tops (ft)	Upper-Level Wind Shear:	Low-Mod
	Temp/Humidity:	76°F / 73%	Cumulus	Scattered	2,500	15,000	Booster Recovery Weather:	Low
	Liftoff Winds (200’):	090° 7 - 12 mph	Cirrostratus	Broken	20,000	24,000	Solar Activity:	Low
72-Hour Delay	Probability of Violating Weather Constraints							
	30%	Primary Concerns: Cumulus Cloud Rule						
	Weather Conditions						Additional Risk Criteria	
	Weather/Visibility:	None / 7 mi.	Type	Coverage	Base (ft)	Tops (ft)	Upper-Level Wind Shear:	Low
	Temp/Humidity:	75°F / 63%	Cumulus	Scattered	3,000	8,000	Booster Recovery Weather:	Low
	Liftoff Winds (200’):	070° 10 - 15 mph					Solar Activity:	Low
<i>Note: The Probability of Violation (POV) is the chance that a Lightning Launch Commit Criteria (LLCC) or certain user constraints (surface winds, precipitation, and temperatures, etc.) will be violated during the launch window. It does not take into account upper-level wind shear, booster recovery weather, and solar activity.</i>								
Next Forecast Will Be Issued		31 Mar 2022						